

## ABSTRACT

A method and apparatus for applying a coating on a substrate, wherein, opposite the substrate, at least two expanding thermal plasma (ETP) sources are arranged which provide the substrate with a coating, wherein the substrate is located in a process room in which the pressure is lower than the pressure, prevailing in the ETP sources, of a carrier gas which is introduced into the process room via the sources and which forms the expanding plasma, wherein the coating provided by each source has a layer thickness according to a certain deposition profile, for instance a Gaussian deposition profile, and wherein different process parameters are chosen such that, after the coating process, the addition of the deposition profiles results in a substantially uniform layer thickness of the coating on a relevant part of the substrate. Preferably, the distance between sources producing plasma at the same time is chosen and/or settable such that the expanding plasmas substantially do not influence each other.